

AR46

Denison

Denison Mines Limited
Annual Report 1978



Denison



A familiar Elliot Lake landmark: Denison's No. 2 shaft complex includes ventilation, engineering, change rooms, crushing and grinding facilities.

Cover: Electro-hydraulic drilling at the Denison Mine produces high tonnages per man shift.



Uranium

Denison has been one of the world's leading producers of uranium for almost a quarter century. Mining and processing facilities at Elliot Lake are being expanded to meet the long term supply contract with Ontario Hydro which runs through to the year 2011.

Oil and Gas

Oil and natural gas are produced in western Canada. Participations are held in two major offshore oil and gas projects being brought into production in Greece and in Spain. Denison and its partners have carried out exploration for oil and gas in Canada, the United States, United Kingdom, United Republic of Cameroon and Nicaragua.

Coal

Metallurgical and thermal coal interests in six principal properties in western Canada are estimated to contain at least 4 billion tons of reserves. Work is being carried forward in

association with other major Canadian, Japanese, West German and French companies.

Industrial

Cement and concrete products are produced and sold in Canada and the United States by Lake Ontario Cement Limited, a 54% owned subsidiary. Reiss Lime Company of Canada, 50% owned, produces industrial lime for growing markets in northern Ontario.

Exploration

Uranium is the principal target of exploration. In addition, gold, diamonds, copper and molybdenum prospects are being studied in Canada, the United States, Africa, Australia, Central America and the Caribbean.

Investments

Denison continues to emphasize its search for new investment opportunities which will add to the Company's present base of operations.



"The gratifying results of 1978 with record earnings achieved and major growth projects undertaken represent the culmination of past efforts as well as the beginning of new progress. An expanded base is being created for Denison's future as a Canadian owned corporation with multi-national projects and interests."

A stylized, handwritten signature in blue ink, likely belonging to the man in the photograph above. The signature is fluid and cursive, with a large loop at the top.

1978 HIGHLIGHTS

☐ Net earnings in 1978 increased 109% to \$12.75 per share, the highest in the Company's history.

☐ Expansion of the Denison uranium mine accelerated to achieve production capability required under long term contract with Ontario Hydro.

☐ Special dividend of \$5.00 per share paid in December.

☐ Prinos oil and South Kavala gas project, offshore Greece, now under construction.

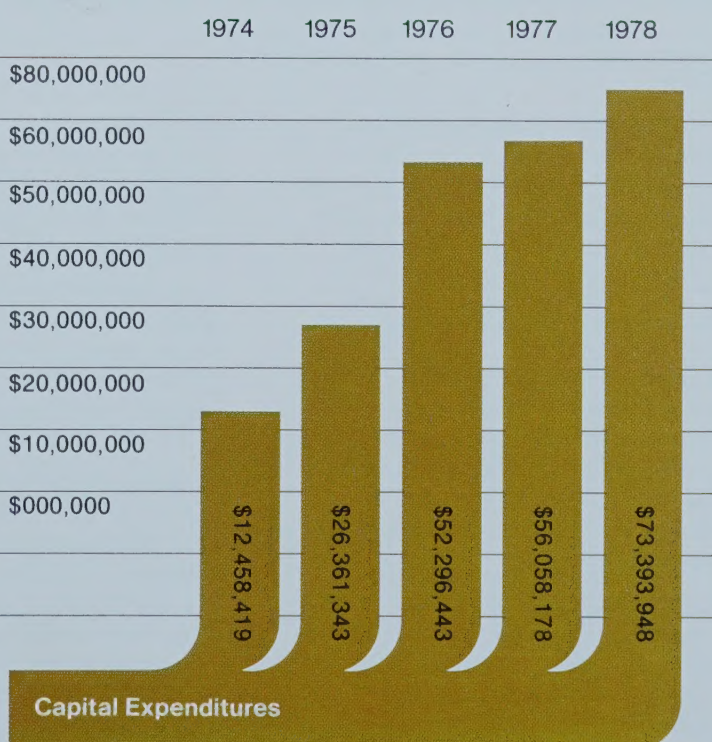
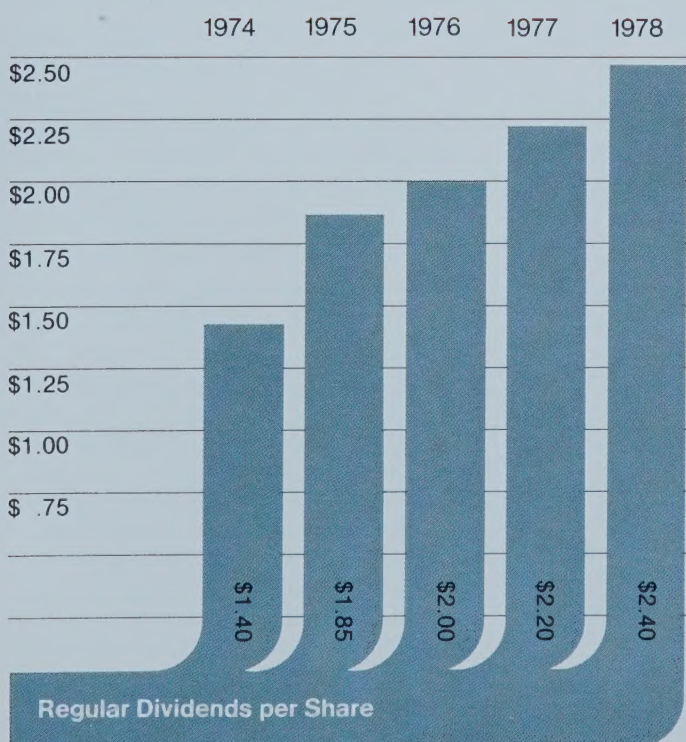
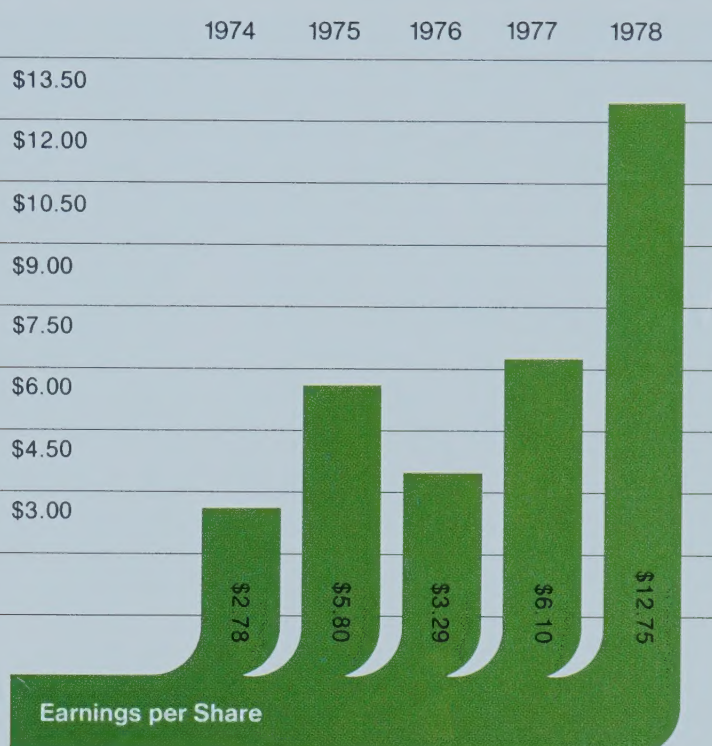
☐ Spanish Government approves Casablanca oil field development plan, offshore Spain.

☐ Feasibility work advanced in confirming the viability of coal projects in western Canada.

☐ A four-for-one split of the common shares to be considered at the Annual Meeting.

Financial Highlights

Denison Mines Limited
Annual Report 1978



Directors' Report



E. B. McConkey
*Vice-President,
Finance*

Stephen B. Roman
Chairman of the Board

C. D. Parmelee
*Vice-President,
Corporate Affairs*

John Kostuik
President

C. H. Frame
*Executive Vice-President,
Mining Operations*

This 1978 Annual Report marks a period of outstanding achievement reflected in the 109% rise in earnings to a record level, in growth projects underway, and in the longer term opportunities being pursued.

Ontario government approval of the long term contract to supply uranium to Ontario Hydro and the authorizations granted by the Governments of Greece and Spain for development into production of oil and gas discoveries are only three of the many highlights of a most eventful twelve months.

Your Company's past success and its prospects for the future are founded solidly in those enterprises that provide the energy to fuel world industry.

The key decisions that created the Denison of today were made over the

past two decades. Those decisions were to direct the resources then available towards projects related to uranium, oil and gas, and coal.

Financial

Consolidated net earnings for 1978 of \$58,241,136, equal to \$12.75 per share, compare with consolidated net earnings of \$27,878,009 or \$6.10 per share for the year ended December 31, 1977.

Increased shipments of uranium and higher net oil and gas revenues contributed substantially to the gain in earnings as did the profit improvement at Lake Ontario Cement Limited, the gain on the sale of an interest in a mineral venture, and higher investment income.

Improvement in your Company's financial condition is reflected in working capital of \$48,868,077 at

December 31, 1978, an increase of \$52,131,769 during 1978.

As a result of the greatly improved financial condition, your Board of Directors considered and recommended several actions of special interest and benefit to shareholders:

- A special dividend of \$5.00 per share was paid in December out of 1971 capital surplus on hand.
- A four-for-one split of the Company's common shares is to be considered by shareholders at the Annual Meeting. This will be the first split of the Denison shares and reflects a desire to make the shares more broadly available, especially to smaller investors. From its inception, your Company has had a solid base of loyalty and support from such investors.

- It is the intention of the Board of Directors of Denison to declare quarterly dividends, commencing with the March, 1979 dividend, of \$0.25 per share on the new shares. This is the equivalent of \$4.00 a share on the presently outstanding shares and represents an increase from the \$2.40 regular dividend paid on each common share in 1978.

Uranium

A further 22% increase in production of uranium oxide to approximately 4,900,000 pounds represents the fourth successive year of higher output. Production is up 75% from 1974. The major expansion program currently underway at Elliot Lake will increase annual output to 6,000,000 pounds by the early nineteen eighties.

With 194,000,000 pounds of uranium oxide to be delivered over the next thirty two years, the Elliot Lake operations have an assurance of stability and continuity seldom, if ever, achieved by any industrial enterprise.

Over the next fifteen years, some 68,000,000 pounds of U_3O_8 are scheduled for delivery to Japan and Spain. In 1980, deliveries to Ontario Hydro will begin and will then continue for thirty one years for a total of 126,000,000 pounds of U_3O_8 .

Although nuclear energy development plans in many countries have been slowed, strong demand continues for assured supplies of uranium. As an established and leading supplier of this energy mineral, Denison continues to pursue the growth of its uranium business by the expansion of its Elliot Lake production capability and the search for new deposits in various parts of the world.

Oil and Gas

Revenues have risen in the oil and gas division because of higher selling prices. While all of your Company's

present production is in western Canada, we are participating in major developments in Greece and Spain. These projects are expected to make a significant contribution to your Company's earnings by the early nineteen eighties.

Coal

The major efforts of the coal division in 1979 will be directed toward marketing for the Quintette metallurgical coal property, a field exploration program and feasibility study for the Belcourt metallurgical coal property, and initial marketing activities for the Coalspur thermal coal property.

All major work necessary for a commitment to proceed to develop the property has been completed on Quintette. An important development during the year was the signing of an agreement with Gulf Canada Limited for its participation in the Belcourt metallurgical coal property. Denison now has a 60% interest and Gulf a 40% interest.

Outlook

Denison Mines is an example of the ability of private enterprise to manage its business effectively during a time of economic uncertainty in many parts of the world. Increasingly, Canadian political leaders and economists — indeed, society generally — are being forced to recognize that the private sector is the only segment of our society capable of producing wealth and with it the employment and economic stability which are so desperately required at this time.

The results of meetings between various levels of government in 1978 showed some signs of a possible return to realistic encouragement of private enterprise by the Federal and Provincial Governments in Canada. Much still remains to be done, however, to permit corporations to better contribute to society, especially

for the resource industry which is caught in the middle of a dispute between the two levels of government.

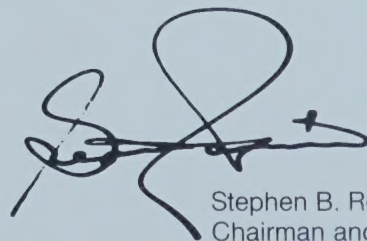
At Denison, growth in uranium production and deliveries assures continuing strong earnings. Participation in new business opportunities, such as the two offshore oil and gas developments, are being pursued actively. These energy projects provide a solid base for future growth.

In Memoriam


The death of John C. Puhky in 1978 saddened all who knew him. During his many years as Secretary-Treasurer and as a Director, Mr. Puhky, who joined Denison in 1954, contributed greatly to the success of the Company.

Your Company has become a leader in the resource industry as a result of the continuing efforts of many people. We wish to express our sincerest appreciation to all employees for their productive efforts and to our shareholders, friends and associates for their support.

On behalf of the Board of Directors.



Stephen B. Roman,
Chairman and
Chief Executive
Officer.



John Kostuik,
President and
Chief Operating
Officer.

Toronto, Canada
January 12, 1979.



S. W. Harapiak
Vice-President,
Uranium Operations

Denison Mines' uranium division at Elliot Lake in northwestern Ontario has underway a major expansion program that equals the effort of the mid nineteen fifties when the property was brought into production.

The Company's uranium operations are solidly founded on long term contracts to supply uranium for use in electric power generating plants in Ontario, Japan and Spain.

The groundwork for the present accelerated effort was laid in the careful planning and preparation of facilities over the past few years, but the main impetus in the expansion was the completion of the uranium supply agreement with Ontario Hydro. This agreement was negotiated over a lengthy period, was studied and analyzed by governmental authorities and a legislative committee, and was ratified in 1978.

The effect on uranium mining and production of uranium oxide concentrates at Elliot Lake of this Ontario Hydro contract for 126,000,000 pounds of uranium oxide is to provide an unprecedented element of stability for both the Company and the Elliot Lake community.

Production will be at a considerably

expanded level involving major increases in the uranium ore mined from the underground workings, in the ore processed through the surface plant, and in the number of people directly active in the Elliot Lake uranium mining division.

Expansion

Denison Mines has made major capital expenditures at Elliot Lake in the last three years. Capital spending now has accelerated and will continue at a high level at least into the year 1985.

The major elements in the Elliot Lake expansion are:

- an increase in underground mining capacity from 10,000 tons to 21,000 tons per day on the basis of a five day week;
- an increase in rated productive capacity of the process plant from 7,100 tons to 15,000 tons of ore per day on the basis of seven days a week;
- the construction of additional housing in the town of Elliot Lake to provide a total of approximately 2,000 new Company owned units.

This expansion follows closely completion of the uranium mining and processing expansion undertaken in 1973 to increase production from a rated capacity of 4,500 tons per day to 7,100 tons per day. The 1973 program was completed in 1976.

The overall result will be an annual output of 6,000,000 pounds of uranium oxide concentrates by the early nineteen eighties.

This output compares with 3,400,000 pounds produced in 1973 when Denison Mines undertook the first phase of the combined expansion and forward planning program that anticipated the growing requirements

for nuclear generated electricity.

The current expansion program includes many innovations designed to hold down capital costs while improving the efficiency of the mining and processing operations to permit maximum economic results from the Elliot Lake ore bodies. These innovations permit the economic mining of lower grade ore areas and areas where the uranium occurs in narrow reefs.

Most important, the equipment used and methods followed are designed to further improve the safety and environmental conditions under which the skilled and highly trained people of the Company's uranium division will continue to work.

A central processing plant will treat all the ore to be mined from the Denison mine and from the Stanrock and Can-Met areas which are being rehabilitated. The decision to bring together processing facilities in one 15,000 tons daily milling capacity plant at the Denison mine rather than in separate plants will result in considerable capital and operating cost savings.

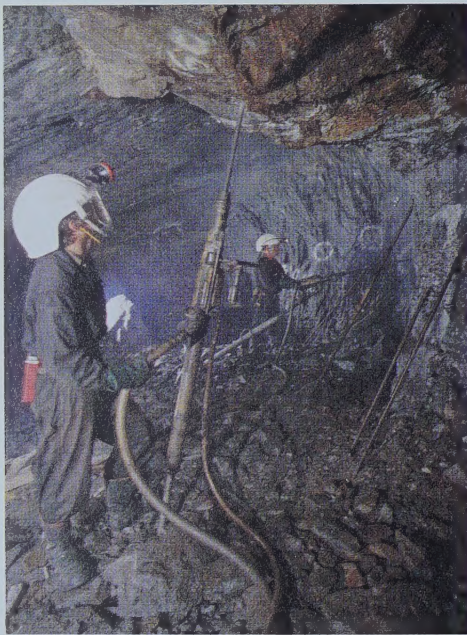
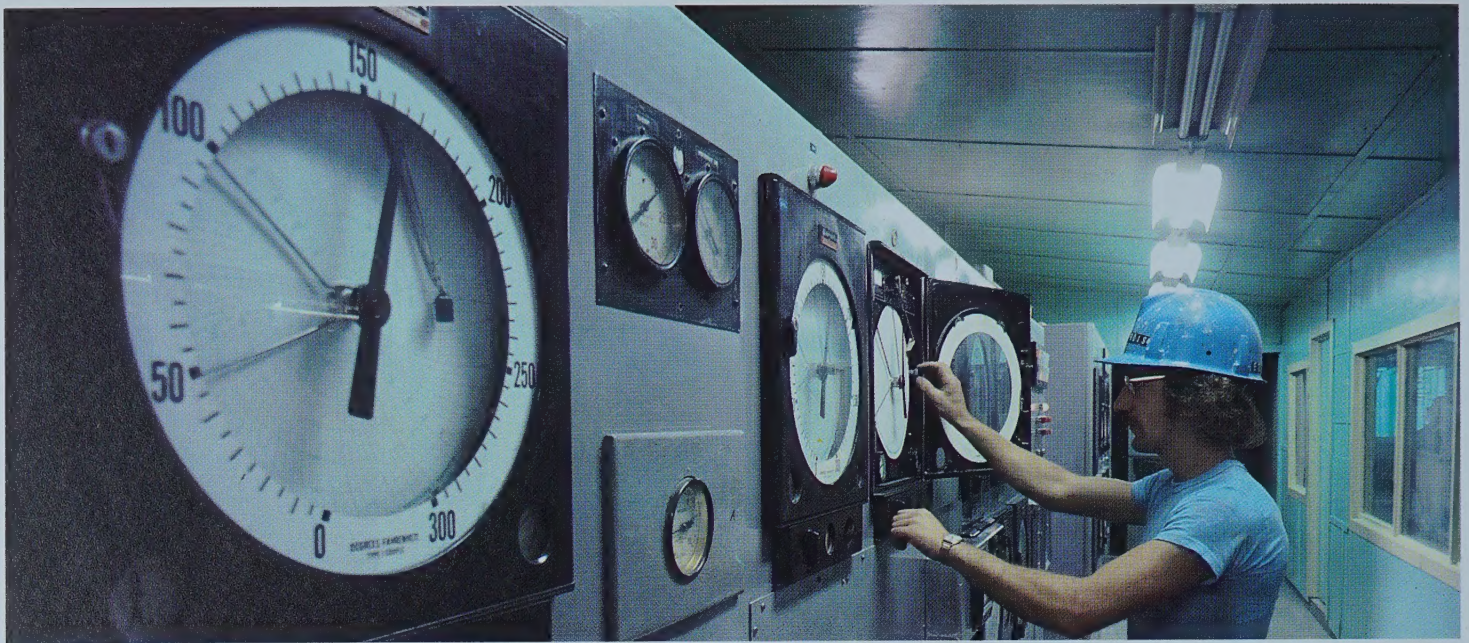
Semi-autogenous crushing and grinding will handle the additional tonnage rather than the standard jaw crusher and pebble mill technique. This process should result in significantly improved costs.

Maintenance and warehousing functions will be brought together in a new building adjacent to the mill. Additional washing and locker room facilities at the production shafts and maintenance facilities are to be provided for planned additional employees.

The completion target for these surface facilities is late 1980.

Underground development at the





Top: Mill operator, Ed Dubois, checking automated process circuits in hydrometallurgical plant.

Centre Left: Raymond Adams uses a pneumatic 'stopper' to install rockbolts.

Centre Right: Dave Culligan inspects flow of leaching water over drum filters in milling process.

Bottom: Maurice Lapointe provides regular instruction in underground stations as part of the extensive safety program at the Denison mine.

(Uranium continued)

Denison mine is expected to be completed in 1982 and at Stanrock/Can-Met in 1985.

At the Denison mine, the expansion includes installation of three major conveyors, each exceeding 2,000 feet in length.

One of the conveyors will transport ore produced in the upper reefs to the No. 1 Shaft hoisting facilities which have been rehabilitated. The other two conveyors will transport ore from the new mining areas of the main zone and also from future mining areas in the overlying upper reef. These conveyors will feed a new underground primary crushing plant at the No. 2 Shaft.

More than 5,000 feet of lateral development and three raises to surface will be required to distribute the fresh air for the total mine ventilation capacity, which will be increased from 2,700,000 to 6,000,000 cubic feet per minute, by large volume, high pressure fans. The mine air heating system will be increased proportionately to maintain comfortable conditions underground in winter.

At the Stanrock/Can-Met properties, rehabilitation of the No. 2 Shaft on Stanrock will start in 1979.

Plans include a major conveyor system to the eastern extremity of the property, rehabilitation of the No. 1 Stanrock Shaft hoisting facilities, stripping and enlargement of the Can-Met No. 1 Shaft for use as a ventilation raise, and development of ventilation drifts to distribute locally 1,300,000 cubic feet of air per minute to the production areas.

ACTIVITIES IN 1978

Milling

Modifications have been made to the

mill which have resulted in improved overall performance.

The major changes included installations of two-stage pumping from the neutral thickener to the leaching plant, larger pumps and lines for tailings disposal, and air receivers and snap blow-off assemblies on the disc filters.

These improvements, combined with close metallurgical control, have increased the tons milled by 17% over 1977 to 2,404,000 tons in 1978. Grade milled at 2.15 lbs/ton compares favorably with 2.07 lbs/ton in 1977. A record average daily level of production was established by the end of the year at 7,092 tons. Uranium oxide production was 4,889,000 pounds, an increase of 22% over 1977.

Mining

A new conveyor system, "A" Axis, was commissioned in the No. 1 Shaft area. This system is strategically placed for planned recovery of high grade pillars in the southwest portion of the mine and will allow development and mining of the upper reefs overlying the existing worked out areas.

Underground service facilities were completed at No. 1 Shaft, including a major repair area incorporating modern equipment to assist in servicing the underground equipment fleet.

Substantial airway development in the upper reefs was carried out for the first time, with entry being gained near both No. 1 and No. 2 Shafts. Knowledge gained from this work will be used to develop the necessary mining equipment and methods required to recover these narrower deposits. Advance development in the upper reef also will form an integral

part of the overall ventilation system as mine production increases.

Mining methods using highly productive, low profile equipment were studied and implemented during the year. Denison's ability to produce efficiently and at relatively high volumes in single reef, low height mining areas contributed significantly to the improved grade delivered to the mill. Electro-hydraulic drills were tested throughout the year and this high output equipment will be incorporated in special units designed for Denison use in low profile mining.

Environmental Protection

The mine ventilation was further improved during the year with the commissioning of a major 28 foot diameter, 1,700 foot long downcast facility near No. 1 Shaft. Total air capacity has been increased to 2,700,000 cubic feet per minute which is equivalent to nearly 15 tons of fresh air for every ton of rock hoisted. The air in the active mining area is completely changed every 30 minutes.

At the new raise, two large axial flow fans have been installed with a capacity of 2,000,000 cubic feet per minute. These fans currently operate below rated capacity pending commissioning of a major upcast facility at 15 Panel which is scheduled to be operating early in 1979. The upcast system at 15 Panel is being equipped with centrifugal suction fans with a total capacity of 2,250,000 cubic feet per minute.

As one of the pioneers in creating Elliot Lake, your Company has used the most environmentally sound technology available.

The Company continues to make substantial progress in environmental research and is conducting programs

in Elliot Lake at its facilities and, in conjunction with others, at other locations.

Studies continued on abandonment requirements for tailings disposal areas. Interim stabilization programs were initiated at Williams Lake and Stanrock.

Denison has taken a strong position in providing and developing the best equipment and devices for protection of personnel against radiation and dust. These, together with a well engineered, high capacity ventilation system, ensure good environmental conditions for all employees.

The knowledge being gained from research and from equipment innovations has assisted the Company and the federal and provincial agencies responsible for environmental standards to revise and improve the standards and their application.

The Ontario Environmental Assessment Board began an inquiry into the effects on the environment of the expansion of the uranium mining industry in Elliot Lake in November of 1976 and is expected to complete its inquiry and report early in 1979. Denison joined with Rio Algom Mines in making detailed presentations and studies.

Industrial and Community Relations

Employees at Elliot Lake increased from 1,467 to 1,658. The number of housing units provided for employees through the Denison housing program generally kept pace with recruiting.

A total of 336 housing units were completed in the year bringing to 834 the number of Company owned new housing units at year end.

Housing units under construction or planned to be built through 1980 on

served land owned by the Company total 476. When newly serviced land planned by the Town of Elliot Lake becomes available, approximately 700 additional housing units will be constructed through to 1984, making a total of approximately 2,000 new Company owned units which will be occupied by employees.

The Company has assisted the Town materially in financing the new area to be built south of Elliot Lake. This expansion is aiding significantly the development of an attractive, well planned and serviced modern community which is expected to grow to over 20,000 in population by the mid nineteen eighties.

Qualified tradesmen and skilled miners continued to be scarce despite the present low level of activity in the Canadian mining industry. Your Company continued innovative programs of training miners and tradesmen and programs were introduced for management personnel.

Accident frequency was reduced by approximately 34% from 1977, notwithstanding the considerable problems associated with increased activity. A concentrated program of safety promotion was reinforced by a very active and effective contribution from joint labor-management safety committees.

Negotiations with the United Steelworkers of America for a new agreement covering production and maintenance employees and office and technical employees were well underway at year's end.





L. L. Samoil
Vice-President,
Oil and Gas Operations

CANADA

Higher prices increased net revenue from oil and gas operations over that of last year. Gas sales were slightly higher than in 1977 even though deliveries were restricted because of an excess supply in Alberta. A new pricing agreement between governments provides for a price increase for oil of \$1 per barrel on July 1, 1979 and an additional increase of \$1 per barrel on January 1, 1980.

Denison's Canadian oil production in 1978 averaged 4,543 barrels per day compared to 4,624 barrels in 1977. Natural gas was produced at a rate of 9,295 MCF per day in 1978 compared to 8,627 MCF in 1977.

Exploration Drilling

Denison participated in ten wells during 1978, seven of which were drilled under farmout agreements at no cost to Denison. One well was successfully completed for oil production.

UNITED STATES

Denison is a participant in and operator of an exploratory well now drilling in Webb County, Texas, which will earn for the Company a 17.5%

interest in a 1,360 acre lease near a developing gas field.

The Company also is participating in two exploration programs in offshore California. Under these programs, lands expected to be made available for bid in the near future are being evaluated.

GREECE Prinos Development

Approval has been obtained from the Government of Greece for a development plan for the Prinos Oil Field under which oil production is scheduled for December of 1980. The plant will be located on the mainland rather than on an artificial island as had been contemplated earlier.

The mainland location is east of the city of Kavala near the village of Nea Karvali, a distance of about 12 miles from the Prinos Oil Field. While the onshore location requires longer pipelines, it provides the advantage of access to public power and proximity to potential purchasers of products from the plant. These products will include oil, sulphur, residue natural gas, and natural gas liquids.

Engineering of the facilities is well advanced. Soil studies of the plant site are in progress.

Construction of two drilling platforms is underway. One four-pile platform is being built in Italy and one in Greece. Two drilling rigs will be required to develop the field in which eight injection wells and ten producing wells are planned. One drilling rig, a jackup type, already has been taken under contract. Maintenance of pressure by using water injection is required early in the life of the field to achieve high oil recovery.

The production plan calls for a producing rate of 25,000 barrels of oil per stream day.

South Kavala Development

Five wells were drilled in 1978 in the South Kavala area south of the Prinos Oil Field. This drilling defined a reservoir containing sweet natural gas carrying some condensate.

A development licence has been acquired for the development of the South Kavala Gas Field. This field will be developed in conjunction with the Prinos Oil Field.

The gas wells tested at rates of nearly 20,000,000 cubic feet per day plus condensate. Two wells have been equipped for re-entry and production.

Gas will be produced through production equipment on a platform into a pipeline connecting South Kavala to Prinos for blending with sour gas from Prinos, and then moved to shore in a common pipeline. A small amount of Kavala gas will be consumed at the Prinos platform and onshore plant by processes there and the balance is expected to be sold to local industrial markets for feedstocks and fuel.

Exploration

During the year, three unsuccessful exploratory wells were drilled and abandoned.

SPAIN

A production test of the Casablanca No. 1A discovery well was completed at mid year after recovering over 1,500,000 barrels of oil.

A plan for the development of the Casablanca Field now has been approved by the Spanish Government and production of oil under this approval will commence in mid 1979. In the fall of 1979, a second well will be drilled.

The recently constructed semi-submersible drilling platform known as



the "Afortunada" will be employed as the temporary production and drilling platform for these initial two wells.

A permanent production platform will be constructed in Spain and will be installed in approximately 540 feet of water. This operation will take about two years.

After installation, three wells will be drilled to develop the Casablanca structure which extends under the Casablanca and Montanazo Blocks in which Denison has interests.

After completion of the permanent platform, the two wells then producing via the Afortunada will be tied by pipeline to the permanent platform which, in turn, will be connected by pipeline to refineries near Tarragona, a distance of 30 miles.

Under full development, the field is expected to produce 45,000 barrels of oil per stream day.

Denison's share in the Casablanca Block is 15% and in the Montanazo Block is 5%. It is planned that the Casablanca Field be developed under a unitization agreement. Owners of both the Casablanca and Montanazo Blocks will share in an equitable manner the development costs and revenues from the fully developed Casablanca Field.

Some special features of the Casablanca development are worth noting:

"Afortunada"

The Afortunada is a large semi-submersible drilling platform recently constructed at a shipyard at Vigo in northwestern Spain. This vessel is capable of drilling to 25,000 feet in water depths of up to 1,200 feet.

Afortunada was purchased by the owners of the Casablanca Block while under construction and has been completed for the purpose of

employing it in the continuing Spanish exploration and development operations.

Subsea Wellheads

Ocean depth above the Casablanca Field varies from 400 to 1,700 feet. A special wellhead system had to be designed and constructed. These wellheads lie on the sea floor and can be operated without the assistance of divers.

The first wellhead will be installed on Casablanca 1A. Assuming successful operation, a second wellhead will be installed on a directional well, Casablanca No. 6. If successful, these wellheads will become permanent facilities and the Afortunada will be released for use in other operations.

Exploration Drilling

Two exploration wells were drilled during 1978. Montanazo MC1 tested high gravity oil at a rate of 9,500 barrels per day. This well was drilled in a water depth of 2,200 feet.

Montanazo MD2, drilled between the Montanazo MC1 and the Casablanca Oil Field, flowed oil at rates of 3,000 barrels per day. The Montanazo MC1 and Montanazo MD2 wells found oil in reservoirs separate from the Casablanca Field and separate from each other.

These two reservoirs do not appear to be commercially viable at the present time. They may become so in the future especially with improved technology and higher oil prices.

UNITED REPUBLIC OF CAMEROON

One offshore well was drilled and abandoned on Permit Oceanic 1. No commercial hydrocarbons were encountered and a portion of the block was relinquished. Geophysical and geological studies will be carried

out on the retained acreage in 1979. Denison's interest in this area is 18.9%.

One onshore well, Kwa Kwa No. 2, was drilled on the Douala Block by Gulf Oil Corporation under a farmout agreement. Although this well encountered shows of oil and gas, it has been abandoned. An extensive geophysical program is to be carried out during 1979. Denison's interest in Douala is 22%.

UNITED KINGDOM

Denison is negotiating the sale of its United Kingdom subsidiary, Denison Mines (U.K.) Limited, to the British National Oil Corporation.

NICARAGUA

The Company holds a 25% interest in twelve exploration permits covering 4,400,000 acres located off the Pacific Coast of Nicaragua.

Consolidated Financial Statements

Denison Mines Limited
Annual Report

For the Year Ended December 31, 1978

Financial Review and Analysis of Operations

The Five Year Summary included in this Report on page 25 summarizes the operating and financial history of the Company for the years 1974 to 1978.

Sales — In 1978, gross revenues continued to grow rapidly, reaching a record \$269,888,785, an increase of \$70,826,052 or 36% over last year. In fact, since 1974 revenues have more than tripled, reflecting an average annual growth rate of 35% over the four year period. A substantially higher delivery rate for uranium, improved prices for all products, and a further deterioration in the value of the Canadian dollar vis-à-vis the U.S. dollar are largely responsible for this year's increase of \$57,103,587 in mineral sales. The higher sales levels for cement and cement products in 1978 reflect the inclusion for the full year of Aetna Cement Corporation, acquired in April of 1977 and the effect of the exchange rate between the Canadian and U.S. dollars.

Earnings — Net earnings for the year more than doubled those for 1977 to reach \$58,241,136, following an 85% increase in 1977 earnings over 1976 levels. The substantial increase in deliveries and improved prices of the Company's products, together with a more favorable exchange rate than that of the prior year, contributed to the improvement in net earnings during each of these years. In addition, the gain on the sale of an interest in a mineral venture and the sale of the Company's minority interest in a U.S. corporation contributed significantly to higher net earnings in 1978.

Capital Expenditures — During 1978, investment in plant, equipment, employee housing and oil properties totalled \$73,393,948, 31% higher than the previous year. The major elements of this capital spending program included expansion of the Elliot Lake facilities in accordance with the agreement with Ontario Hydro, additional employee housing at Elliot Lake, and significant expenditures relating to the development of the Prinos oil and South Kavalá gas fields in the North Aegean Sea. Capital expenditures have exceeded \$50,000,000 in each of the last three years and in the period from 1974 to 1978 have totalled \$220,568,331. As a result, net fixed assets, after deducting depreciation, depletion and amortization charges, have reached \$246,108,435 as of December 31, 1978.

Taxes — The effective corporate income and mining tax rate in 1978 increased to 45.3% from 44.3% experienced in 1977. In each year, the effective tax rate would have been significantly higher had it not been for capital gains arising from the sale of long-term investments.

Financial Position — Current operations generated funds of \$60,536,527 during the year. In addition, advances on concentrate sales contracts contributed \$59,789,998 while proceeds from the sale of a long-term investment and an interest in a mineral venture totalled \$70,191,073. Other items, including the issue of mortgages related to Elliot Lake housing, contributed funds of \$11,455,128 in 1978. After capital expenditures of \$73,393,948, dividend payments to shareholders of \$33,804,836, including a special dividend of \$5.00 per share paid from 1971 capital surplus on hand, long-term investment purchases of \$35,195,023 and other applications of funds totalling \$7,447,150, working capital increased \$52,131,769 to \$48,868,077 as of December 31, 1978.

Accounting Policies

Denison Mines Limited for the year ended December 31, 1978

The accounting policies of the Company are in accordance with generally accepted accounting principles. Outlined below are those policies considered particularly significant for the Company.

Basis of Consolidation — The consolidated financial statements include the accounts of the Company and all subsidiaries. Substantially all of the Company's exploration and production activities related to oil and gas are conducted jointly with others and accordingly the accounts reflect only the Company's proportionate interest in such activities.

Translation of Foreign Currencies — Foreign currencies have been translated into Canadian dollars as follows: current assets and current liabilities at rates in effect at the end of the year; non-current assets and liabilities and revenue and expenditure items at approximate rates in effect at dates of transactions, except for depreciation and depletion which are translated at the same rates as the related assets.

Inventories — Concentrates and finished and semi-processed cement products are valued at the lower of average cost of production and net realizable value. Operating supplies are valued at the lower of average cost and replacement cost.

Long-term Investments — The investment in companies in which the Company has significant influence is accounted for by the equity method, by which the original cost of the shares is adjusted for the Company's share of earnings or losses less dividends since significant influence was acquired. The treatment of expenditures of mining companies in the exploration stage has been conformed in these consolidated financial statements to the policy followed by the Company. Portfolio investments are carried at cost.

All long-term investments are written down to their estimated inherent worth when there is evidence of a permanent decline below their carried value.

Fixed Assets, Depreciation and Depletion

— **Plant, Equipment and Housing** — Plant, equipment and housing of the companies are recorded at cost and depreciated, generally on a straight-line basis, over their estimated useful lives except that (a) plant and equipment at the Company's mine properties acquired before 1965 were written off in prior years and (b) oil and gas production equipment is depreciated by the unit of production method.

— **Mineral Properties (Mining, Oil and Gas)** — The Company accounts separately for each group of permits, licences or leases in a designated exploration or development area as a separate area of interest. All exploration costs relating to each area of interest are written off in the year incurred. If it is determined that an area of interest contains economically recoverable reserves, all costs relating to that area for the current and subsequent years are deferred. These deferred costs, together with property acquisition costs, are amortized against related production revenues on the unit of production method based on the area's estimated proven reserves or written off if that property is abandoned.

Development costs incurred for the specific purpose of preparing the existing mine beyond current requirements are also deferred and amortized by the unit of production method.

Income and Mining Taxes — The Company follows the tax allocation method of accounting whereby the provision for income and mining taxes is based upon income reported in the accounts.

The benefits arising from the investment tax credit provisions of the Income Tax Act are treated as a reduction of the current year's income tax provision.

Consolidated Balance Sheet

Denison Mines Limited as at December 31, 1978

Assets

	1978	1977
<i>Current Assets</i>		
Cash and short-term deposits	\$ 52,608,400	\$ 695,752
Marketable securities — at market which is lower than cost	—	10,126,734
Accounts receivable	35,313,831	30,267,764
Concentrate inventories	1,657,536	286,779
Cement product inventories	6,136,686	7,295,005
Supplies and prepaid expenses	17,342,219	15,857,389
	<u>113,058,672</u>	<u>64,529,423</u>
<i>Long-term Investments (note 2)</i>	35,640,021	37,753,604
<i>Fixed Assets (note 3)</i>	246,108,435	184,538,855
<i>Other Assets</i>	3,814,430	2,850,098

<u>\$ 398,621,558</u>	<u>\$ 289,671,980</u>
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Auditors' Report

To the Shareholders of Denison Mines Limited

We have examined the consolidated balance sheet of Denison Mines Limited as at December 31, 1978 and the consolidated statements of earnings and retained earnings and changes in financial position for the year then ended. For Denison Mines Limited and for those other companies of which we are the auditors and which are consolidated or are accounted for by the equity method in these financial statements, our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances. For other companies consolidated or accounted for by the equity method we have relied on the reports of the auditors who have examined their financial statements.

In our opinion, these consolidated financial statements present fairly the financial position of the Company as at December 31, 1978 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Toronto, Canada,
January 12, 1979.

COOPERS & LYBRAND
Chartered Accountants

Liabilities

	1978	1977
<i>Current Liabilities</i>		
Bank indebtedness	\$ —	\$ 32,126,745
Accounts payable and accrued charges	35,063,210	27,284,047
Dividends payable	955,387	1,058,838
Income and mining taxes payable (note 4)	24,563,265	1,585,898
Long-term debt due within one year	1,662,238	1,172,865
Advances on concentrate sales contracts	1,946,495	4,564,722
	<u>64,190,595</u>	<u>67,793,115</u>
<i>Advances on Concentrate Sales Contracts</i>	80,389,998	20,600,000
<i>Long-term Debt</i> (note 5)	39,474,364	30,895,307
<i>Minority Interest in Subsidiary Companies</i>	16,813,160	15,639,497
<i>Deferred Income and Mining Taxes</i> (note 4)	58,412,710	39,839,630
	<u>259,280,827</u>	<u>174,767,549</u>

Shareholders' Equity

<i>Capital Stock</i> (note 6)		
Authorized — 6,000,000 shares of \$1 par value each		
- Issued and fully paid — 4,568,221 shares	4,568,221	4,568,221
<i>Contributed Surplus</i>	7,937,764	7,937,764
<i>Retained Earnings</i>	126,834,746	102,398,446
	<u>139,340,731</u>	<u>114,904,431</u>
	<u>\$ 398,621,558</u>	<u>\$ 289,671,980</u>

Signed on behalf of the Board

B. E. Willoughby, Director

E. B. McConkey, Director

Consolidated Statement of Earnings and Retained Earnings

Denison Mines Limited for the year ended December 31, 1978

	1978	1977
<i>Gross Revenue</i>		
Minerals (uranium, limestone products, oil and gas)	\$ 191,525,042	\$ 134,421,455
Cement and cement products	78,363,743	64,641,278
	<u>269,888,785</u>	<u>199,062,733</u>
<i>Production, Exploration and Administration Costs</i>	183,363,945	146,327,802
	<u>86,524,840</u>	<u>52,734,931</u>
<i>Other Income (note 7)</i>	38,172,711	10,591,445
	<u>124,697,551</u>	<u>63,326,376</u>
<i>Net Earnings Before Items Shown Below</i>		
Deduct: Depreciation, depletion and amortization	11,909,333	8,958,741
Interest on long-term debt	3,660,891	2,559,471
	<u>15,570,224</u>	<u>11,518,212</u>
	109,127,327	51,808,164
<i>Income and Mining Taxes (note 4)</i>	49,410,000	22,950,000
	<u>59,717,327</u>	<u>28,858,164</u>
<i>Earnings Before Minority Interest</i>		
Minority Interest	1,476,191	980,155
	<u>58,241,136</u>	<u>27,878,009</u>
<i>Net Earnings for the Year</i>		
<i>Balance of Retained Earnings — Beginning of Year</i>	102,398,446	84,570,523
	<u>160,639,582</u>	<u>112,448,532</u>
<i>Dividends —</i>		
Regular	10,963,731	10,050,086
Special, paid from 1971 capital surplus on hand	22,841,105	—
	<u>33,804,836</u>	<u>10,050,086</u>
<i>Balance of Retained Earnings — End of Year</i>	<u>\$ 126,834,746</u>	<u>\$ 102,398,446</u>
<i>Earnings per Share for the Year</i>	<u>\$12.75</u>	<u>\$6.10</u>

Consolidated Statement of Changes in Financial Position

Denison Mines Limited for the year ended December 31, 1978

<i>Sources of Working Capital</i>	1978	1977
Provided from operations	\$ 60,536,527	\$ 49,109,375*
Increase in advances on concentrate sales contracts	59,789,998	2,692,403
Working capital on acquisition of cement grinding business	—	4,462,500
Issue of mortgages on construction and purchase of Elliot Lake housing units	10,123,795	3,955,741
Net proceeds on sale of long-term investments and interests in mineral ventures (note 7)	70,191,073	8,920,000*
Other	1,331,333	218,629
	<u>201,972,726</u>	<u>69,358,648</u>
<i>Uses of Working Capital</i>		
Additions to fixed assets	73,393,948	56,058,178
Increase in other assets	964,332	2,340,875
Reduction of long-term debt	1,612,238	1,144,365
Purchase of long-term investments	35,195,023	2,721,439
Reclassification of investments from marketable to long-term	4,471,914	—
Dividends to minority shareholders of Lake Ontario Cement Limited	398,666	398,666
Dividends	33,804,836	10,050,086
	<u>149,840,957</u>	<u>72,713,609</u>
<i>Increase (Decrease) in Working Capital</i>	<u>\$ 52,131,769</u>	<u>\$ (3,354,961)</u>

* Restated to conform to 1978 classification.

Notes to Consolidated Financial Statements

Denison Mines Limited for the year ended December 31, 1978

1. Accounting Policies

The information on page 17 presents a summary of significant accounting policies and is an integral part of these financial statements.

2. Long-term Investments

(a) This item comprises:	1978	1977
Investment in companies accounted for by the equity method —		
Shares — note 2(b)	\$ 4,020,536	\$ 4,021,478
Debentures and loans	950,000	1,517,044
	<u>4,970,536</u>	<u>5,538,522</u>
Portfolio investments —		
Shares — note 2(c)	16,593,895	19,518,104
Secured loans — note 2(e)	14,075,590	12,696,978
	<u>30,669,485</u>	<u>32,215,082</u>
	<u>\$35,640,021</u>	<u>\$37,753,604</u>

(b) Included in shares of companies accounted for by the equity method are shares carried at \$4,020,533 with a quoted market value of \$5,335,495 (1977 — \$2,937,729 and \$4,798,908 respectively).

(c) Portfolio investments include shares carried at \$16,593,888 with a quoted market value of \$17,652,194 (1977 — \$19,463,922 and \$16,933,697 respectively).

(d) The quoted market values referred to above do not necessarily reflect the realizable value of these holdings which may be more or less than that indicated by market quotations.

(e) Secured loans in note 2(a) above include a loan of \$9,810,000 (\$U.S.10,000,000), plus accrued interest of \$2,522,045, made to Oceanic Exploration Company pursuant to an agreement described in note 8(c).

3. Fixed Assets

Fixed assets comprise:

	Cost at December 31, 1978	Accumulated depreciation, depletion and amortization to December 31, 1978	Amount written off in 1978
Land	\$ 5,937,852	\$ —	\$ —
Mining properties	4,548,102	1,020,239	97,619
Oil and gas properties	26,804,937	4,132,767	532,563
Plant and equipment	203,046,709	110,461,934	8,753,162
Deferred development	64,220,487	6,122,465	1,675,714
Employee housing	24,000,946	1,284,542	850,275
Construction in progress	40,571,349	—	—
	<u>\$369,130,382</u>	<u>\$123,021,947</u>	<u>\$11,909,333</u>

Included in the total cost at December 31, 1978 is approximately \$58,000,000 related to the exploration and development areas referred to in notes 8(b) and (c).

Plant, equipment and housing are depreciated at annual rates which vary from 2.5% to 33.3%. Included in plant and equipment at December 31, 1978 are fully depreciated assets of \$68,680,791. Accumulated depreciation, depletion and amortization at December 31, 1977 amounted to \$112,741,722.

4. Income Taxes

The deferred income and mining tax provision for the year amounted to \$18,573,080 (1977 — \$18,602,150).

Unrecorded deferred income taxes in respect of timing differences related to depreciable assets and oil and gas intangibles prior to adoption of the tax allocation method of accounting amount to \$9,336,000.

5. Long-Term Debt

(a) This item comprises:	1978	1977
<i>Lake Ontario Cement Limited and subsidiaries —</i>		
9.75% debenture due 1994	\$13,780,000	\$14,640,000
Promissory notes, with interest at U.S. prime rate plus 1% (but not less than 8% or greater than 9%), due 1980 to 1983 (\$U.S. 3,800,000)	3,990,000	3,990,000
Term bank loan, with interest at U.S. prime rate plus 1.75% (but not less than 8%), due 1979 to 1983 (\$U.S. 3,000,000)	3,217,500	3,150,000
Notes and mortgages due up to 1982 at rates of 9.75% and 10%	417,865	702,230
	<u>21,405,365</u>	<u>22,482,230</u>
<i>Other —</i>		
Elliot Lake housing mortgages at rates varying from 8% to 12% maturing from 2013 to 2028	19,731,237	9,585,942
	<u>41,136,602</u>	<u>32,068,172</u>
Repayable within one year	1,662,238	1,172,865
	<u>\$39,474,364</u>	<u>\$30,895,307</u>

(b) The debenture referred to in (a) above is payable in annual instalments of \$860,000 and is secured by a first mortgage on the manufacturing facility in Picton, by a floating charge on substantially all other property, plant and equipment of Lake Ontario Cement Limited and by a pledge of the shares of U.S. subsidiaries.

(c) A promissory note for \$2,677,500 (\$U.S. 2,550,000) included in promissory notes in (a) above is secured by a mortgage on land, buildings and machinery located in Essexville, Michigan.

(d) The debt in \$U.S. has been translated at the rate of exchange in force when the debt was incurred. If the year-end rate were to be used, the total long-term debt would increase by \$850,500.

(e) Total long-term debt repayments required in 1979 are \$1,662,238, in 1980 are \$2,609,000, in 1981 are \$2,518,000, in 1982 are \$2,461,000 and in 1983 are \$2,983,000.

6. Capital Stock

The Board of Directors of the Company has resolved to subdivide the Company's shares on a four-for-one basis and to convert the shares from having a par value of \$1 to being without par value. This resolution is subject to approval by the shareholders.

7. Other Income

(a) Other income comprises:	1978	1977
Gain on sale of interests in mineral ventures, net of commission (note 7(b))	\$13,500,000	\$ 7,889,190
From companies accounted for by the equity method —		
Income (loss)	448,449	(38,992)
Provision for decline in value	—	(250,000)
From portfolio investments —		
Gain on disposal of securities	15,716,047	—
Dividends and interest	4,061,479	1,918,566
From marketable securities and short-term deposits	4,446,736	1,072,681
	<u>\$38,172,711</u>	<u>\$10,591,445</u>

(b) The Company has entered into agreements to sell interests in certain of its mineral ventures at prices payable at specified future dates up to June 15, 1981. These agreements provide that, if the purchaser elects not to make any payment when it falls due, the agreement will be terminated and certain forfeitures will be suffered by the purchaser. Thus, the Company records gains only upon the receipt of each payment. If future payments are received, further material gains will be recorded.

8. Commitments and Contingencies

(a) In December, 1977, the Company entered into an agreement with Ontario Hydro for the sale to the utility of 126,000,000 pounds of uranium oxide, subject to certain provisions as to specified curtailments or reductions and as to termination. The uranium oxide is to be delivered over a 31-year period from 1980 to 2011 under an agreed pricing formula. Fulfilling the agreement will require a major expansion of the plant and mine facilities at Elliot Lake, which expansion has been commenced. The utility will make advances to the Company in respect of substantially all the cost of the expansion, which advances will be repaid by the Company over the delivery period. The amount of the advances to December 31, 1978, including an initial advance of \$25,000,000, is \$61,089,998. The Company's Elliot Lake operating properties, facilities and certain other assets related thereto have been mortgaged or charged as security for the funds advanced subject to the Company's right to give prior security for future indebtedness in agreed amounts.

(b) The Company is participating in the construction and installation of production and processing facilities with respect to two development areas (the Prinos Oil Field and the South Kavala Gas Field) in the Sea of Thrace and one development area (the Casablanca Oil Field) in the Mediterranean, offshore Spain. The cost to complete such construction and installation is estimated at U.S. 530,000,000 in 1978 dollars, the Company's share of which would be U.S. 190,000,000.

(c) Under a purchase agreement entered into in 1976, by which the Company acquired, among other interests, a 68.75% interest in an oil exploration and development area in the Sea of Thrace, the Company is required to pay to Oceanic Exploration Company ("Oceanic"), but only from production, an additional U.S. 10,000,000 and Oceanic is further entitled to a 15% net earnings interest in the above area, which is to commence when the production payment is completed. Under the purchase agreement the Company loaned to Oceanic U.S. 10,000,000 (see note 2(e)) for a period of five years provided that in certain circumstances the Company may demand earlier repayment and in such event if such loan, with interest, is not repaid within a stipulated period then it is converted into an oil payment due by Oceanic to the Company in an amount double the loan and accrued interest. Such oil payment will then be payable out of the production payment and net earnings interest payable by the Company to Oceanic. Certain finders' fees in connection with this transaction are payable by the Company out of future production attributable to the interests of the Company in the above area and in the Cameroon area.

(d) Westinghouse Electric Corporation is continuing proceedings commenced in 1976 in the United States District Court for the Northern District of Illinois against twenty-nine defendants, including the Company and its wholly-owned subsidiary, Denison Mines (U.S.) Incorporated. Tennessee Valley Authority is continuing proceedings commenced in 1977 in the United States District Court for the Eastern District of Tennessee against eight defendants, including the Company. In each action, the plaintiff is claiming relief from alleged illegal combinations and conspiracies entered into by the defendants to restrain both the interstate and foreign commerce of the United States in uranium in violation of the Sherman Antitrust and Wilson Tariff Acts. The plaintiff in each action claims an injunction and treble the damages alleged to be caused to the plaintiff, the extent, if any, of such damages not yet having been ascertained. The Company and Denison Mines (U.S.) Incorporated are of the opinion that the actions are without merit as against them and are defending the actions, denying any illegal actions and asserting a lack of jurisdiction.

(e) On December 29, 1978, a complaint was filed in the United States District Court for the Southern District of New York against the Company and certain others claiming damages of approximately U.S. 1,300,000 arising out of the sale by the Company of certain shares of Freeport Minerals Company to Freeport which was consummated in October, 1978. The Company believes that it is not subject to the jurisdiction of such Court, is of the opinion that the action is without merit as against it, and intends to defend the action.

(f) The Company has guaranteed payment of both principal and interest on a note for U.S. 4,759,900 issued by Quintette Coal Limited, an affiliated company. The note bears interest at 9% per annum compounded annually and matures in 1979.

(g) In addition to the projects referred to in notes 8(a) and (b), major projects authorized as of December 31, 1978 will require estimated capital and exploration expenditures of \$62,000,000.

(h) Based on the most recent actuarial evaluations, unfunded past service pension liabilities of the companies amount to \$6,918,000. This amount is being funded and expensed over periods from 9 to 19 years. The total charge against operations in 1978 with respect to past service liabilities amounted to \$1,001,702 including interest.

(i) The companies have existing lease agreements, primarily for shipping facilities and real property, for which the minimum annual aggregate rentals total approximately \$2,900,000.

9. Remuneration of Directors and Senior Officers

Direct remuneration received by the directors and senior officers in 1978 amounted to \$1,178,241 (1977 — \$1,077,628).

Five Year Summary

Denison Mines Limited

Production Data	1978	1977	1976	1975	1974
Tons milled	2,404,000	2,059,000	1,522,000	1,340,000	1,290,000
Average grade (lbs. U ₃ O ₈ per ton)	2.15	2.07	2.16	2.30	2.33
Pounds U ₃ O ₈ produced	4,889,000	4,001,000	3,112,000	2,911,000	2,807,000
Crude oil (bbls.)	1,658,000	1,688,000	1,712,000	1,941,000	2,237,000
Natural gas (mcf)	3,393,000	3,149,000	2,100,000	2,188,000	2,236,000

Consolidated Financial Data

Sales	\$269,888,785	\$199,062,733	\$160,058,677	\$139,855,498	\$82,216,435
Net earnings for the year	58,241,136	27,878,009	15,043,214	26,517,784	12,691,551
— per share	12.75	6.10	3.29	5.80	2.78
Dividends paid*	33,804,836	10,050,086	9,136,442	8,451,209	6,395,509
— per share*	7.40	2.20	2.00	1.85	1.40
Working capital (deficiency)	48,868,077	(3,263,692)	91,269	43,323,005	18,553,932
Additions to fixed assets	73,393,948	56,058,178	52,296,443	26,361,343	12,458,419
Shareholders' equity	139,340,731	114,904,431	97,076,508	91,169,736	73,103,161
— per share	30.50	25.15	21.25	19.96	16.00

*Includes a special dividend of \$5.00 per share paid in 1978 out of 1971 capital surplus on hand.

Special Report



Prinos Project Aegean Sea



Denison, with a 68.75% interest, will participate in the first commercial oil and gas fields in Greece, the Prinos Oil Field and the South Kavala Gas

Field. Oil was discovered off the coast of Greece in the Aegean Sea in 1974. The first oil production is expected to reach the Greek mainland at the end of 1980. The planned rate of output is 25,000 barrels daily.

The Prinos Oil Field is about 1000 acres in area and lies under 100 to 110 feet of water about twelve miles southeast of the coastal community of Kavala.

The South Kavala sweet natural gas will be connected to the Prinos production platform by an undersea pipeline. A processing plant will be erected onshore to serve the Prinos Oil Field and the South Kavala Gas Field. Plant output includes oil, sulphur, residue natural gas and natural gas liquids. Sulphur and natural gas are expected to be used by local industry.

Large flare burners of drilling barge, Wadeco III, on site at the South Kavala Gas Field indicate high well production capacity.

Casablanca Project Offshore Spain



Denison owns interests of 15% and 5% respectively in the Casablanca and Montanazo blocks, under which lies the Casablanca Field, offshore

Spain. This new oil field is the largest oil field in Spain and will be brought into production in a two year development program. Key to this development is construction and installation of a semi-submersible drilling rig and a production platform to be placed in water 540 feet deep in the Mediterranean Sea. An undersea pipeline will link the wells to refineries at Tarragona on the Spanish coast, a distance of 30 miles. A daily production of 45,000 barrels is planned on completion in 1980.

Some oil already has been produced from one well during a production test. Under the development plan, oil will be taken initially from one and later two wells prior to installation of the production platform and pipeline and the drilling of additional wells. This oil will be transported by tanker until the pipeline is operational.

This Casablanca development will include use of special wellhead equipment installed at sea bottom which can be operated remotely and without the assistance of divers.



R. C. Hermann
Vice-President,
Coal Operations

Exploration and feasibility studies continued on Denison's metallurgical coal properties in northeastern British Columbia. Marketing efforts concentrating primarily on Quintette coal were expanded in 1978 and will be intensified in 1979. Important 1978 developments included:

- a major review of alternative development concepts for the Quintette property resulted in a decision to employ the open-pit mining method;
- a full scale field exploration program was initiated on a considerably enlarged Belcourt property in which Denison has a 60% and Gulf Canada has a 40% interest;
- a field exploration program on the Saxon property was undertaken to obtain the remaining necessary data to complete the feasibility study;
- formal expressions of interest were obtained from Romania to purchase half the planned annual production of Quintette.

World-wide concern regarding long term energy supplies is reflected in increasing international interest in the Coalspur thermal coal property in

northern Alberta. Several corporations have expressed an interest in participating in an exploration and development program.

The interest of both the British Columbia and the Federal Governments in the development of northeastern B.C. coal is evident in continuing studies.

The Federal Government is investing \$16,300,000 in installation of basic services for a new port to be developed on Ridley Island near Prince Rupert designed for shipment of both grain and coal. Field construction of access roads and essential services is expected to start early in 1979, triggered initially by the urgent need for additional west coast grain handling capacity.

Studies carried out by the B.C. Government, Denison, and other potential developers in the area have provided extensive environmental background information regarding specific properties and the area in general.

An office was opened in Vancouver, British Columbia.

BRITISH COLUMBIA Quintette

The studies carried out in 1978 represent completion of all major work which sensibly can be done on the Quintette project prior to obtaining sales agreements. Marketing efforts covered the steel industries in Brazil, Korea, Romania, Spain, Sweden and Taiwan, in addition to the Japanese steel industry.

The Protocol signed with the Government of the Socialist Republic of Romania represents progress in obtaining markets. Romania has indicated its intention to purchase up to 2,000,000 tons annually for 20

years, possibly supplying equipment and participating financially.

The feasibility study, completed in 1977, served as a reference point for the comparison of several alternative concepts. The result has been the development of a highly efficient open-pit mining concept and the completion of engineering and economic studies which define this optimum method for the development of the project at a planned annual level of 4,000,000 tons. Sufficient reserves have been proven and indicated to support production levels well in excess of this amount for more than 30 years.

Technical and commercial discussions based on the preliminary results of the open-pit concept were held with the Japanese, Korean and Taiwanese steel industries.

The shareholders in Quintette Coal Limited will be as follows on completion of a program of expenditures by Imperial Oil Limited: Denison Mines — 38.25%; Tokyo Boeki Ltd. and Mitsui Mining Co. Ltd. — 45%, and Imperial Oil Limited — 16.75%. Denison is the manager of the project.

Quintette covers 100,469 acres and is located approximately 60 air miles southwest of Dawson Creek, British Columbia. The property is estimated to contain 2.8 billion tons of metallurgical coal in place, to a maximum depth of 1,500 feet. These coal reserves are of a high quality metallurgical grade.

Saxon

Studies completed to date have demonstrated that the project is technically and economically feasible assuming that infrastructure is available on an acceptable basis. Initial annual production is planned at a level of 4,000,000 tons and would



(Coal continued)

Top Left: The helicopter plays a vital role in exploration activities on rugged mountain terrain.

Bottom Left: Geologist, Matthew Dufourd, mapping and surveying Denison coal acreage.

Top Right: John Perry examines vegetation growth, part of the environmental control program on the coal properties.

Bottom Right: Geologist, S. Santiago, examines specimen for quality from trench dug across a coal seam on Belcourt mountain.

be equally divided between open-pit and underground operations. Sufficient reserves have been proven to support this output for more than 20 years.

The 1978 exploration program identified additional reserves of coal on the property in conditions suitable for underground mining.

The Saxon property consists of 33,585 acres located approximately 90 air miles south of Dawson Creek and 115 miles east of Prince George, British Columbia. The property is estimated to contain in excess of 500 million tons of coal in place, to a maximum depth of 1,500 feet. Extensive analysis and testing have demonstrated these reserves to be of high quality metallurgical grade.

The Ruhrkohle Group, consisting of Ruhrkohle A.G., Mitsui & Co. and Usinor (Union Siderurgique Du Nord Et De L'Est De La France, S.A.), has acquired a 30% interest and has the right to acquire an additional 20% interest in Saxon Coal Limited. When this right is exercised, Denison Mines Limited and the Ruhrkohle Group will each have a 50% interest. Denison is manager of the project.

Belcourt

During 1978, the Belcourt property was increased to 116,039 acres. The property is located approximately 65 air miles south of Dawson Creek, British Columbia. The original 13,002 acres were estimated to contain in the order of 500 million tons of coal in place, to a maximum depth of 1,500 feet. Estimates of reserves on the newly acquired acreage are being determined.

An agreement was signed with Gulf Canada Limited in April of 1978 under which Gulf acquired a 40% interest. This agreement provides for an expenditure of \$10,000,000 to

\$15,000,000 on exploration and feasibility studies to be carried out over a four year period. A full-scale exploration study was started in 1978 as the first step in this program. Preliminary interpretation of data indicates that extensive seams of mineable thickness are present in conditions amenable to both open-pit and underground mining. Test results indicate that the coal is of good metallurgical quality.

ALBERTA Coalspur

Coal leases were increased from 19,600 acres to 94,479 acres. These leases, 100% owned by your Company, are located generally to the south and east of Hinton, Alberta, within the well known Coalspur-Robb mining district, which once was a very active coal mining area. The original 19,600 acres of leases were estimated to contain reserves in excess of 500 million tons of coal in place, to a depth not exceeding 1,500 feet. Reserve estimates have not been determined yet on the expanded property.

The coal is a good quality thermal coal with an energy content of 11,000 B.T.U.'s per pound and a sulphur content of less than one half of one percent. The most western block of Coalspur leases, as yet unexplored, may contain reserves of metallurgical coal.

Increasing interest in long term energy sources has stimulated continuing discussions with national and international corporations interested in participating in the exploration and development of the Coalspur property. A major market for thermal coal appears to be developing in the Pacific Rim countries and in Europe, but Canada's competitive position as

a potential supplier may be hampered by high rail freight costs. Potential Canadian markets for thermal coal exist in the energy requirements for heavy oil extraction from the tar sands of Alberta and Saskatchewan, as well as for thermal power generation in Eastern Canada.

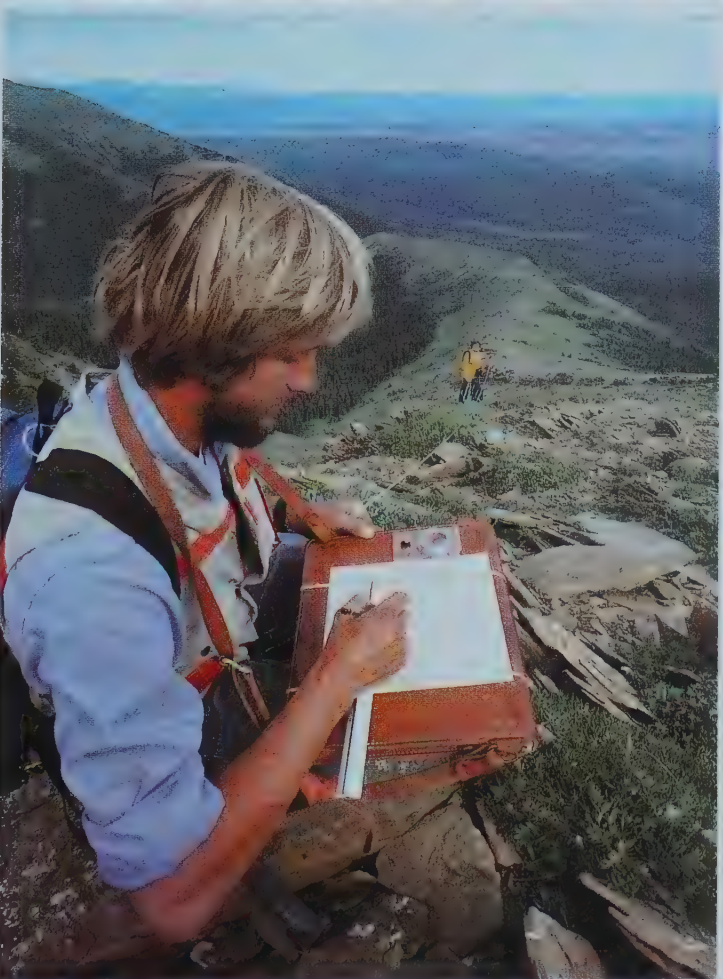
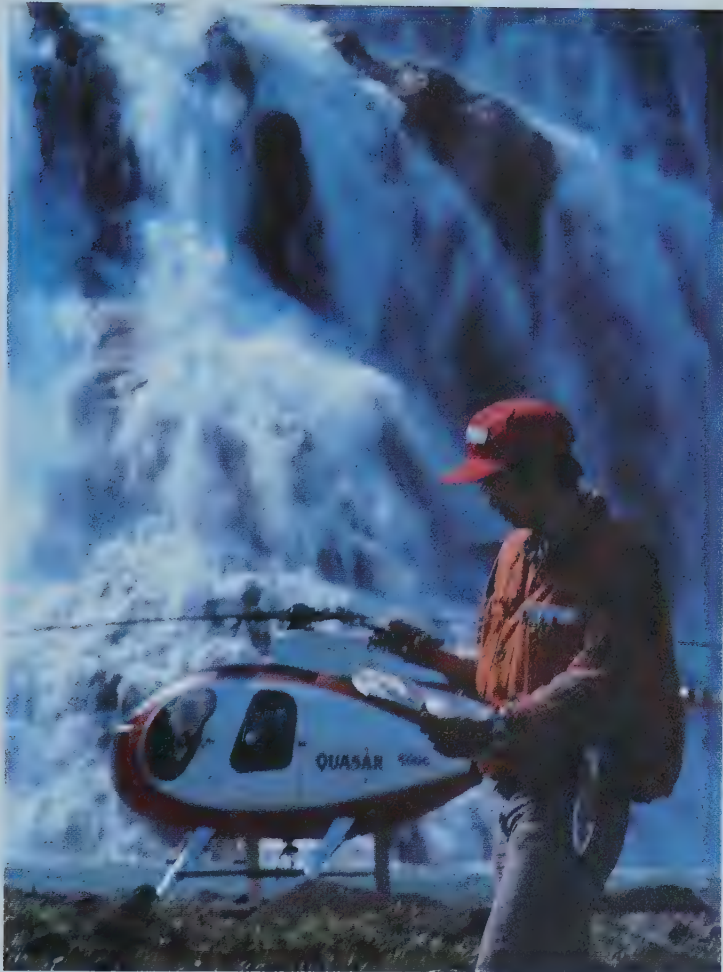
Whitecourt

The Whitecourt thermal coal leases cover 10,880 acres and are located approximately 10 miles north of the town of Whitecourt, Alberta. The leases are 100% owned by Denison Mines Limited. It is anticipated that the coal product from the property will have an energy content in the range of 9,000 B.T.U.'s per pound and a sulphur content of about one half of one percent. A rail line passes within 10 miles of the property.

Wildhay

The Wildhay property consists of 26,543 acres of coal leases in two blocks approximately 25 miles north and west of the town of Hinton, Alberta. The leases are owned 100% by Dencoke Coal Limited, a wholly-owned Denison subsidiary.

Possible mine sites are within 15 miles of the existing Alberta Resources Railroad. Exploration potential is in the order of 50 to 100 million tons of coal in place, to a maximum depth of 1,500 feet. The coal is expected to be of medium volatile metallurgical quality.





W. M. Bateman
President,
Lake Ontario
Cement Limited

LAKE ONTARIO CEMENT LIMITED

Record levels in sales and a 57% increase in consolidated earnings over the 1977 levels were achieved in 1978 by Lake Ontario Cement Limited, an increasingly important manufacturer of cement and concrete products serving the Ontario and United States markets bordering the Great Lakes. Approximately 54% of the outstanding shares in this public company are owned by Denison Mines.

The significant improvement in operating results was due primarily to strong sales demand coupled with the benefits of the substantial discount on the Canadian dollar compared to United States currency. The increase in sales reflected the broad geographical markets of Lake Ontario and the inclusion for the first time for a full year of sales of Aetna Cement Corporation in Michigan.

The first quarter of the year was unusually slow because of a severe winter, but sales and earnings rebounded very strongly in the second and third quarters. In the last half of the year, Lake Ontario Cement was operating its cement

manufacturing facilities at close to effective capacity.

Consolidated earnings for the year 1978 were \$3,149,910 equal to 73.2¢ per share, an increase of 57% over the 1977 level of earnings which were \$2,007,461, equal to 46.7¢ per share. Consolidated sales totalled \$78,363,743, a 21% increase from the 1977 level of \$64,641,278.

The financial condition of Lake Ontario is strong with consolidated working capital at December 31, 1978 of \$17,006,583 compared to approximately \$15,000,000 at the same time last year. Lake Ontario has repaid current bank loans and is soundly based for future expansion.

Capital expenditures for 1979 are expected to be significantly higher than the \$2,982,485 for 1978. Investments are planned in equipment to improve efficiency at the Picton cement plant and for additional environmental control facilities.

In hearings held in July 1978, the United States International Trade Commission determined that importation of Portland cement from Canada was not injuring or likely to injure the United States cement industry and therefore no dumping duties were imposed. This decision has been appealed by a United States company and it is expected that appeal procedures will be lengthy. Lake Ontario does not anticipate that the appeal will be successful. It also understands that in the event the appeal were to be successful, no retroactive dumping penalties would apply.

Operations

Cement — Lake Ontario has its primary cement and clinker manufacturing plant in Picton, Ontario, and ships cement throughout

the Province of Ontario and into western New York State. Clinker is shipped by self-unloading lake carriers to the plant of a wholly-owned subsidiary, Aetna Cement Corporation, at Essexville, Michigan, where it is processed into cement and marketed in central Michigan.

The quantity of shipments of cement to customers in both Canada and the U.S. increased 10% from the 1977 levels with some softness in the Ontario market and stronger demand in the states of Michigan and New York. Cement shortages were prevalent in the southwest United States and this strength in demand was felt in the midwest. Aetna Cement was well positioned to participate in this market situation.

Ontario shipments were close to 1977 levels while New York State shipments increased by approximately 4%. In Michigan, shipments increased substantially reflecting the fact that Aetna Cement became a subsidiary of Lake Ontario Cement in April of 1977.

Concrete Products — Premier Concrete Products is the division serving the Ontario market in ready-mixed concrete and concrete block. Premier increased its sales volume by about 10% in 1978 and, generally, there was some improvement in operating results. However, profit margins in the ready mixed concrete business continue to be unsatisfactory.

Primeau Argo Block Co. Limited, a subsidiary manufacturing concrete block and serving the Metropolitan Toronto Region, achieved sales and earnings roughly comparable to 1977 levels. The concrete block market is not growing. Primeau Argo has been investigating other product lines. Concrete brick is one product that is being developed.



Outlook

A review of cement and concrete product markets for 1979 indicates a generally positive situation for Lake Ontario. In addition, the longer term view of the North American cement industry is favorable as problems of over capacity, high energy costs and unsatisfactory price-cost relationships are being resolved.

The cement business is highly capital intensive and profitability comes about primarily from high plant utilization rates with increases in volume generating better operating margins. The Canadian cement industry with modern plants and capacity excess to domestic needs is exporting significant quantities of cement and clinker to the United States. This export business was enhanced in 1978 by increased cement demands in the United States and the capacity limitations of its cement industry.

The capacity situation in the U.S. arises largely from over capacity troubles which began in the early nineteen sixties. Cement producers, encouraged by the long postwar building boom, added massive amounts of new capacity. These additions ran well ahead of demand and the industry's profitability was severely depressed because of over capacity. Since 1974, industry capacity additions have fallen off dramatically and new additions are being constrained by the need for capital to improve environmental conditions and reduce rising fuel and power costs by converting to coal and installing energy efficient equipment. Accordingly, it is not expected that there will be the significant over capacity problems in the industry that existed in the past decade.

Cement consumption closely follows trends in construction volume, and the

surge in demand in 1978 in the U.S. reflected strength particularly in housing and commercial sectors. While no one construction sector is a reliable indicator of cement use, per capita consumption in North America grew 40% in the period from 1947 to 1977. This trend is expected to continue as concrete expands its market share as a replacement for other construction materials and as a product with attractive insulation qualities.

In terms of the coming year, there are variations in the forecasts for Lake Ontario's two major market areas. Cement consumption in Ontario is expected to increase in the range of 2 to 3 percent over 1978 levels.

The construction markets in the United States are expected to decline from the "boom" conditions of 1978 partly because of high interest rates and the Federal Government voluntary price and wage control program. Overall cement consumption should drop slightly and regional cement shortages are expected to be eliminated.

There is, however, a backlog of construction activity in Michigan which is expected to generate a strong level of cement demand in 1979. New York State also is expected to be close to 1978 levels in terms of cement use.

With some growth in demand in Ontario, a steady but strong level of activity in the United States, and the Canadian dollar continuing at a discount, Lake Ontario Cement Limited is optimistic for 1979.

REISS LIME COMPANY OF CANADA LIMITED

Reiss Lime, in which Denison has a 50% interest, operated its lime plant at Serpent Harbour in northern Ontario at full capacity as anticipated. Demand remains strong in the near term, and the long term outlook is for a continuing increase in lime requirements for industrial and environmental uses in Reiss Lime's market area.

Reiss Lime has started an expansion of its production facilities which will more than double its present lime capacity. A new kiln, now being erected, and supporting facilities will be completed by late 1979. In addition, a new office building for administration and quality control functions will be constructed.

The trans-shipment facility of Canadian Industries Limited for sulphuric acid at the Reiss Lime plant site has been completed and will be ready for the 1979 shipment season. The plant will be operated by Reiss Lime.

The year 1978 has been highlighted by full production and the decision to proceed with plant expansion. The outlook for 1979 is for increased activity in both lime and dock operations.



Top Left: Sampling strata takes Hans Madiesky high above the timber line on Denison properties.

Bottom Left: Sophisticated electromagnetic equipment is used by Tomyuki Takamura in northern Saskatchewan to detect conductive zones associated with uranium deposits.

Top Right: Rick Vanderhorst and Dave Pawliuk use a canoe to reach remote exploration sites on Edgar Lake in northern Manitoba.

Bottom Right: Working in Denison's student employment program, geology students, Alice Jak and Andrea Petzold, use an emanometer to detect radon gas at Snyder Lake, Manitoba.



R. J. Miller
Vice-President,
Exploration

During 1978, your Company and its subsidiaries embarked on ambitious exploration programs in Canada, the United States and overseas. These included assembling additional technical and administrative staff, making mineral, geographical, political, economic and geological studies, and negotiating agreements. Land was acquired in potential mineral deposit areas on our own or with others.

Denison wishes to maintain its preeminent position as a uranium producer and seeks uranium deposits. In addition, deposits of other minerals which have the promise of being profitable in the future are being sought.

CANADA

The joint venture uranium exploration program with Mega Montan of West Germany got well underway during the year. Properties were acquired in British Columbia, Ontario, The Northwest Territories, Nova Scotia and the Athabasca Basin and Wollaston fold belt areas of Saskatchewan and Alberta. The exploration is producing encouraging results and drilling is in progress. Geological conditions favorable for

the existence of uranium deposits are present on certain properties. Extensive drilling will continue on the most promising of the numerous targets identified to date. The Mega Montan joint venture, which will be carried out over a six year period, is managed by your Company.

Denison also is involved in continuing important uranium joint venture exploration programs with Mitsui & Co., Ltd. and Western Mines Ltd. in Saskatchewan, Manitoba and The Northwest Territories.

Company geologists examined a number of prospects in other minerals, particularly gold, molybdenum, tungsten and base metals.

UNITED STATES

Exploration teams are maintained in Denver, Colorado and Spokane, Washington. Other possible office locations are being considered. Initial drilling results on our Quad joint venture in the Spokane Indian Reservation, Washington State were encouraging, encountering uranium values. Additional ground was acquired and drilling continues. Terms of a mining licence have been agreed upon.

Drilling on the LeBar Hall property in Wyoming has extended the known uranium oxide zone and encountered a new, possibly parallel zone. Both will be tested by further drilling.

An agreement has been negotiated in the Skull Valley project in Utah which has good uranium potential and is being explored. Developments in uranium are being monitored, particularly in the western United States, where several primary reconnaissance programs are underway.

Denison is participating in a joint

venture with Geomet Exploration Inc. of Boulder, Colorado which is conducting research and surveys with a radon gas detection technique.

FOREIGN

Properties have been examined in Africa, Europe, South America, Australia, Central America and the Caribbean area.

Africa

The Company has acquired a substantial interest in gold concessions in Eastern Cameroon. Drilling has commenced on alluvial zones in these concessions and gold values have been observed in the samples. A number of vein type gold occurrences located and sampled in the area also are encouraging. A prospecting licence covering uranium and other minerals in all of Cameroon north of 4° North latitude has been obtained and reconnaissance surveys are being made.

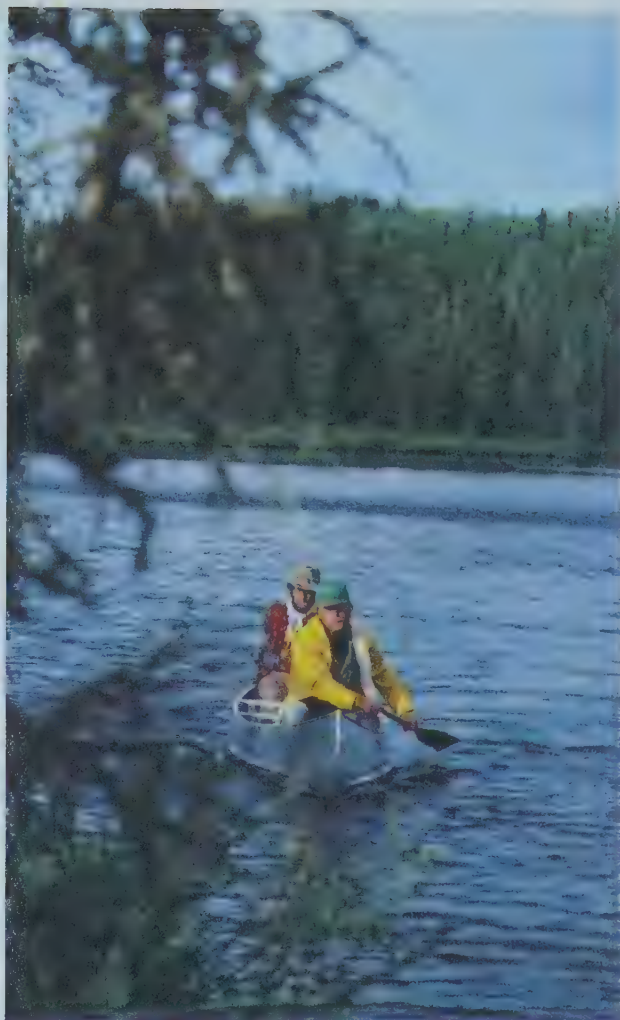
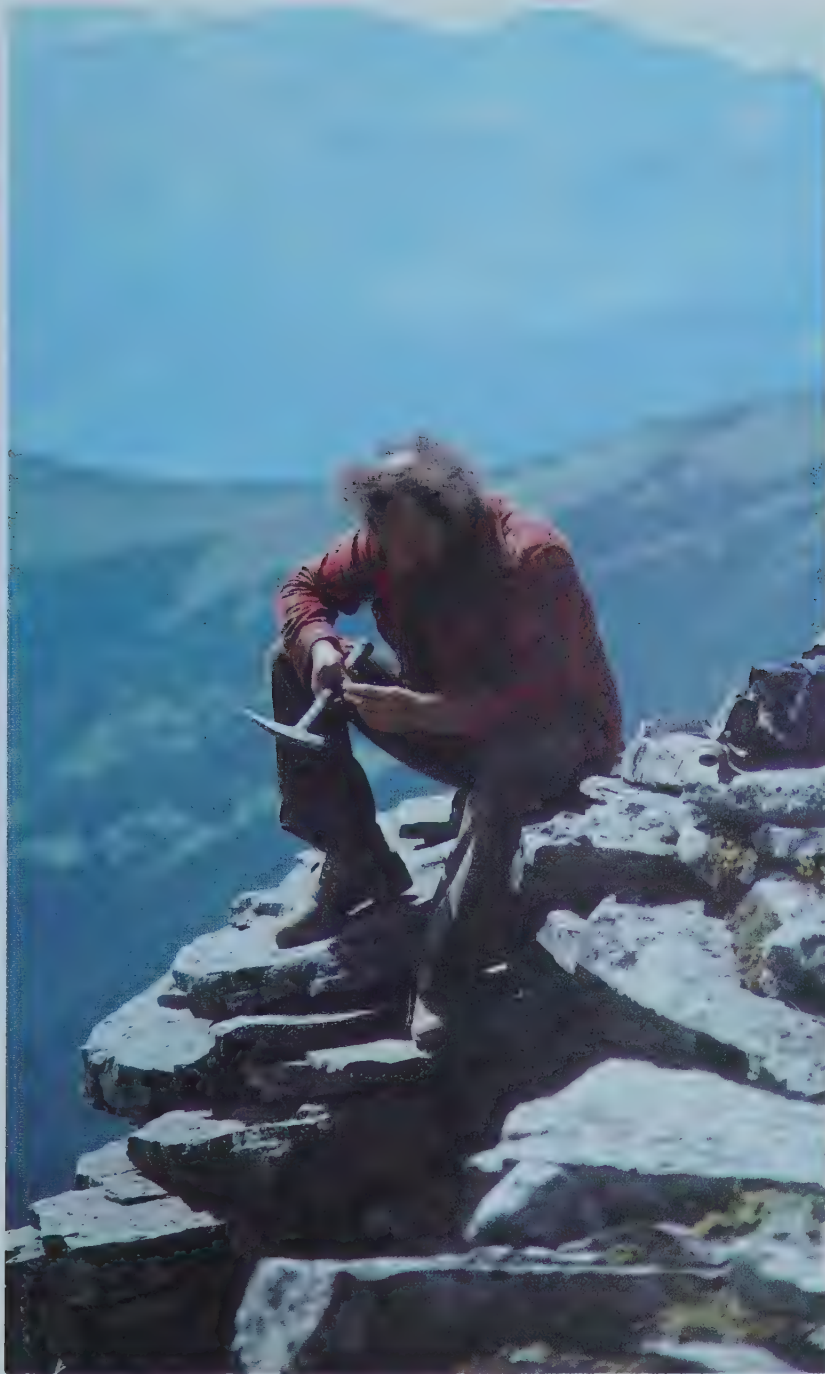
Elsewhere in Africa, Denison teams have investigated potential diamond, uranium and gold properties and are studying the results.

Australia

Prospects in the Alligator River and other uranium districts have been examined and are under consideration.

Central America and Caribbean

Gold, copper and molybdenum areas have been examined and are under consideration for further work.



Standard Trust Company

experienced increased earnings and asset levels for the eighth consecutive year. Net income for 1978 rose 45% to \$771,000 from \$532,000 a year ago. At December 31, 1978, total assets were \$185,108,000. This is 44% higher than the \$128,716,000 reported at December 31, 1977. This growth in earnings and assets is attributed principally to expansion of the mortgage portfolio.

In the first half of 1978, Standard Trust received additional capital of \$1,429,164 from the issue of 119,097 new shares in a successful rights offering to shareholders. In June, the authorized capital was increased to \$40,000,000 from \$20,000,000. A subscription agreement was entered into on November 16, 1978 to permit

the raising of up to \$4,000,000 by the issue of \$20 par value Series A Preference Shares over the next two years. \$1,000,000 was raised by this means on January 2, 1979.

The purpose of both the rights offering and the preference share issue is to support continued growth of Standard Trust's deposit and mortgage investments.

Nine of the ten existing branches were expanded or moved to larger premises during the year.

Pacific Tin Consolidated

Corporation is a leading United States producer of feldspar and related products, an important source of tin from mines in Malaysia, and a producer of high quality, utility grade coal. Recently, its operations have

been extended into metal products through the acquisition of an iron powders producer.

Sales of \$20,748,000 for the nine months ended September 30, 1978 were up 10% from the corresponding 1977 level of \$18,830,000. Net income for the first nine months of 1978 of \$1,660,000 was 22% higher than the \$1,362,000 for the first nine months of 1977.

This improvement reflects higher average tin prices of \$5.37 a pound, up from \$4.56 a pound for the corresponding nine months of 1977, and inclusion of the profitable Pyron Corporation, acquired in April of 1977, for the entire first nine months of 1978. During the year, Pacific Tin sold its minority interest in two Brazilian companies and was successful in renegotiating leasing arrangements for its Malaysian tin operation. On December 4, 1978, its subsidiary, The Feldspar Corporation, strengthened its position as a supplier to the ceramic and glass industry through the acquisition of a producer of kaolin and sand components.

Consolidated Rexspar Minerals & Chemicals Limited

reported limited activity during 1978 while awaiting financing arrangements for continuation of its efforts to develop its uranium properties in British Columbia.

The authorized capital of the company was increased to 6,000,000 common shares from 4,920,000 and a 10% interest in the properties was sold to Mega Montan, a West German company.

SUBSIDIARY

Lake Ontario Cement Limited	53.7%
Aetna Cement Corporation	100% *
Primeau Argo Block Co. Limited	72.5% *
Rochester Portland Cement Corp.	100% *

*Percentage held by Lake Ontario Cement Limited

OTHER INVESTMENTS

Pacific Tin Consolidated Corporation	38.0%
Reiss Lime Company of Canada, Limited	50.0%
Roman Corporation Limited	13.4%
Standard Trust Company	47.8%

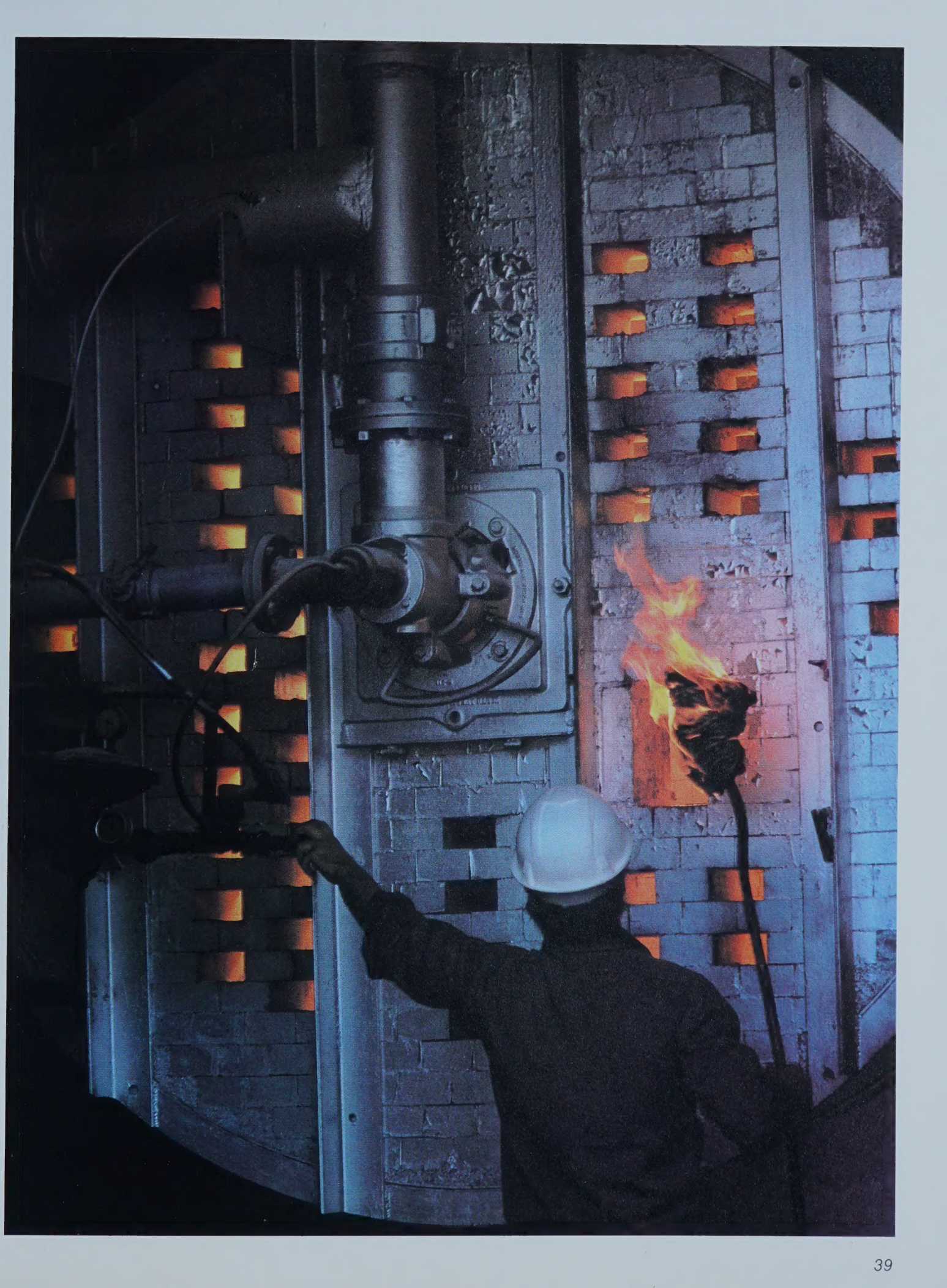
EXPLORATION AND DEVELOPMENT

Argosy Mining Corporation Limited	37.1%
Black Hawk Mining Ltd.	32.5%
Consolidated Rexspar Minerals & Chemicals Limited	46.9%
Lakehead Mines Limited	38.6% *
Quintette Coal Limited	38.25% * **
Saxon Coal Limited	50.0% * **
Vespar Mines Limited	38.6% *

*Amalgamated as of January 11, 1979

**On completion of expenditures by Imperial Oil Limited

***On completion of sale to the Ruhrkohle Group



Spectacular Kinuseo Falls on the Murray River near the Quintette property in British Columbia.

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John Kostuik

President

C. H. Frame

Executive Vice-President,
Mining Operations

C. D. Parmelee

Vice-President,
Corporate Affairs

R. C. Hermann

Vice-President,
Coal Operations

S. W. Harapiak

Vice-President,
Uranium Operations

W. N. O'Brien

Vice-President,
Minerals and Marketing

V. L. Chapin

Vice-President

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General Counsel
and Secretary

E. B. McConkey

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Vice-President,
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Vice-President

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Solicitors

Fraser & Beatty,
Toronto, Ontario

